

EXECUTIVE SUMMARY

TITLE: Commander, Naval Surface Forces Mishap Analysis

Bottom Line Up Front:

- There has been very little change in on-duty and off-duty mishap rates over the 10 year period of this report. Generally, the number and rate of occurrence has remained within the limits of control indicators.
- Class A afloat mishaps have averaged 5.2 events per year from FY2000 to FY2009. (52 events in 10 years)
- There has been no common trend in afloat class A mishap type. Equipment operation, fire, and man overboard occur are the top three, however ship control events such as groundings, collisions and seamanship have also occurred.
- For on-duty mishaps shipboard ladder injuries, injuries involving doors/hatches, electrical shock and boating operations are major sources of lost work time.
- Personnel/Human error, specifically unsafe acts such as distraction, poor knowledge of procedures or improper procedures, lack of attention to detail, and complacency are major causal factors in on-duty mishaps. Many of these stem from improper or inadequate supervision.
- With respect to off-duty mishaps, sports (especially basketball), slips/trips/falls, and off-road motor vehicles are the leading injury-causing activities. Drowning is the leading cause of off-duty death.
- The lack of data hindered several areas of analysis with respect.

SUMMARY: This study answers the following questions about with respect to Naval Surface Force mishaps:

1. What are the Class A/B/C operational mishap rates for each ship class?
2. What are the most common Class A/B/C operational mishaps for each ship class?
3. What are the most common Class A/B/C on and off duty injuries for each ship class?
4. How much lost work time can be attributed to recreational activities?

5. What are the most common human factors in operational mishaps?
6. What are the most common material/procedural factors in operational mishaps?

There were only minor differences in the types of mishaps when analyzing the different vessel classes. For on-duty mishaps cruisers, destroyers, frigates and amphibians all had more slips/trips/falls mainly on ladders than any other on-duty mishap. The second most common mishap for these same vessel types was categorized as "caught in or struck by object". This involved in many cases appendages injured by doors/hatches/scuttles. The third most common for three of these vessel types was contact with electrical equipment. (For large amphibians this was number four)

For off-duty mishaps basketball, slips/trips/falls and off-road motor vehicles were the leading lost work days activities. The combination of all sporting events was the overwhelming number one activity. After the basketball, the sports causing the highest number of lost work days were baseball/softball, football, bicycling and soccer.

Recommendations

- Examine the training provided to supervisors for ways to reduce the instances of supervisory error.
- Provide training and safety programs to address human error on the part of sailors and supervisors.
- Modify the design of future naval vessels to lessen the chance of a mishap while transiting via ladders, doors, hatches and scuttles.
- Emphasize training on the maintenance of electrical equipment and reiterate proper tag-out procedures.
- Examine boat operations and training for ways to reduce the number of lost work days.
- Educate sailors on the dangers of riding off-road vehicles.
- Develop periodic swim training/qualification for all Navy personnel.
- Educate sailors on proper warm-up techniques and on the need to wear required safety equipment while participating in sports.

For the Naval Safety Center

- Provide a specific definition in WESS and require the evol_c field to be populated. This field describes

the evolution in which the ship was involved at the time of the mishap.

- Examine ways to reduce the number of evolutions listed in the evol_c drop down menu.
- Provide a specific definition in WESS and require the invlvd_stat_c field to be populated. This field describes whether a mishap occurred at sea, pierside naval station or pierside shipyard.
- Provide a method to report and track damage to equipment.
- Provide a specific definition in WESS and require the bls_obj_invlvd, bls_acdt_type, and pcn_c fields to be populated. The pcn_c field lists the activity in which the person was involved. Eliminate the "unknown" category and examine ways to reduce the number of activities from the drop down menus.